VIGNAN'S FOUNDATION FOR SCIENCE, TECHNOLOGY & RESEARCH
(Deemed to be University) - Estd. u/s 3 of UGC Act 1956

ABET NBA NAAC A+ GRADE NIRF 70th RANK

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

CIRCULAR

Date: 15.11.2025

The Department of Computer Science and Engineering will convene the Board of Studies (BoS) meeting for the B.Tech and M.Tech programmes on **06.12.2025 at 10:00 AM**, to be held in **blended mode**. The online participants may join the meeting using the following Zoom link: https://us06web.zoom.us/j/81949649808?pwd=NbDPP9iRMTXb3pOzFzyKoPpwEniHg3.1

All members are kindly requested to make it convenient to attend the meeting.

The members are

S.No.	Name and Designation of the Member	Position
1.	Dr. K.V. Krishna Kishore, Professor and Dean SoCI	Member
2.	Dr. S. V. Phani Kumar, HOD, Dept. of CSE, VFSTR	Chairperson
3.	Prof. R.B.V.Subramanyam, Professor, Dept. of CSE, NIT Warangal	External Member (Academia)
4.	Mr.Bala Prasad Peddigari, Chief Innovation Officer, TCS	External Member (Industry)
5.	Prof. C.R.Rao, Professor, SCIS, University of Hyderabad	Invited Member(Academia)
6.	Dr.B.Venkata Ramana, Professor, HoD-CSE, IIT, Tirupathi.	Invited Member(Academia)
7.	Mr.Sai Kumar Jadam, Quality Engineering Manager, DASSAULT SYSTEMES Solutions Lab	Invited Member(Industry)
8.	Dr. M. Umadevi, Associate Professor.	Internal Member(R&D nominee)
9.	Dr. D. Yakobu Associate Professor.	Internal Member(School nominee)
10.	Dr. S. Deva Kumar, Associate Professor.	Internal Member(Programme Coordinator)
11.	Dr. S. Satish Kumar, Assistant Professor	Internal member
12.	Dr.S.Manikandan, Assistant Professor	Off Campus, Hyderabad
13.	O.Gandhi/G.Navya Assistant Professor (BOA)	Member Secretary

Agenda of the BoS Meeting:

1. Discussion and approval for R25 & R22 (C22 & C24) assessment pattern changes.
2. Discussion of results – FA, SA, Grades, and Correlations of results announced after previous BoS.
3. Approval of SWAYAM–NPTEL courses / Ratifications of previous approved courses.
4. Approval of Honour / Minor / Department elective / Open elective courses, if any that are not approved earlier.
5. Best practices of Formative assessment (Pre-T1, T1, T2, T3 and T5).
6. Best practices of T&P activities.
7. Analysis of the feedback collected from various stakeholders such as Alumni, Employers, Faculty, Parents and Students during the academic year 2024-25 AND/OR 2025-26.
8. Guest lectures by Industry personnel planning / executions related to any Core course / Dept. electives.
9. Discussion of workshops, conferences organized by the Department.
10. Any other matter with the permission of the Chair.

Member Secretary

Chairperson

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ABET NBA NAAC A+ GRADE NIRF 70 RANK

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Date: 08.12.2025

Minutes of Board of Studies Meeting

Board of Studies (BoS) meeting of B.Tech & M.Tech degree programmes were conducted on 06.12.2025 in blended mode from 10.00 AM to 11.30 A.M. in blended mode. With the Zoom meeting link https://us06web.zoom.us/j/81949649808?pwd=NbDPP9iRMTXb3pOzFzyKoPpwEniHg 3.1 . All the members attended the meeting as scheduled.

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8. Guest lectures by Industry personnel planning / executions related to any Core course / Dept. electives.
9. Discussion of workshops, conferences organized by the Department.
10. Any other matter with the permission of the Chair.

The following members were present either thorough offline or online.

S.No.	Name and Designation of the Member	Position	Signature
1.	Dr. K.V. Krishna Kishore, Professor and Dean SoCI	Member	
2.	Dr. S. V. Phani Kumar, HOD, Dept. of CSE, VFSTR	Chairperson	
3.	Prof. R.B.V.Subramanyam, Professor, Dept. of CSE, NIT Warangal	External Member (Academia)	Online
4.	Mr.Bala Prasad Peddigari, Chief Innovation Officer, TCS	External Member (Industry)	Online
5.	Prof. C.R.Rao, Professor, SCIS, University of Hyderabad	Invited Member(Academia)	ABSENT
6.	Dr.B.Venkata Ramana, Professor, HoD-CSE, IIT, Tirupathi.	Invited Member(Academia)	Online

7.	Mr.Sai Kumar Jadam, Quality Engineering Manager, DASSAULT SYSTEMES Solutions Lab	Invited Member(Industry)	Online
8.	Dr. M. Umadevi, Associate Professor.	Internal Member(R&D nominee)	
9.	Dr. D. Yakobu Associate Professor.	Internal Member(School nominee)	ABSENT
10.	Dr. S. Deva Kumar, Associate Professor.	Internal Member(Programme Coordinator)	
11.	Dr. S. Satish Kumar, Assistant Professor	Internal member	
12.	Dr.S.Manikandan, Assistant Professor	Off Campus, Hyderabad	Online
13.	O.Gandhi/G.Navya Assistant Professor (BOA)	Member Secretary	

Chairperson Dr. S. V. Phani Kumar, Professor and Head, department of CSE, VFSTR initiated the meeting by welcoming and introducing the external members and invitees to the internal members.

Dr. K.V. Krishna Kishore, Professor and Dean, SoCI, appreciated the department for initiating the BoS process and emphasized that curriculum and assessment changes should be aligned with university academic regulations and outcome-based education requirements.

Agenda-wise Minutes and Resolutions

The agenda items were taken up one by one. The discussions, decisions, and action points are recorded below.

Agenda 1: Discussion and Approval of R25 & R22 (C22 & C24) Assessment Pattern Changes

- The proposed assessment pattern for R25 and R22 (C22 & C24) was presented by Dr. S. V. Phani Kumar through a PPT.
- Members discussed assessment components, weightages, and alignment with course outcomes.
- Dr. K.V. Krishna Kishore emphasized that the revised assessment pattern should have clear CO mapping, uniform implementation across sections, and a mechanism to monitor outcomes in the first offering.
- A discussion was held on module bank question framing, planning, and verification of module banks.
- The proposed assessment pattern changes were approved. It was also noted that the course contents have been revised from R22 (C24) to R25,

- **Key revision highlights are:**
  - Data Structures: Graphs are updated to include MST (Prim, Kruskal) and shortest paths (Dijkstra, Bellman–Ford) since these are core real-world graph problems and are needed for labs/interviews; hashing is removed to avoid repetition because it is covered in ADS; min/max heaps are added under Trees to support priority queues used in many DS applications and algorithms.
  - • Advanced Java Programming: A new unit on "Version Control with Git & Maven" is included (Git basics, GitHub workflows, Maven POM/dependencies/lifecycle, and Maven-based Java projects) to align with industry-standard project practices.
- Appendix 1: Assessment Pattern for R22 (C22 & C24).

Agenda 2: Discussion on Results - FA, SA, Grades, and Correlation Analysis

- Dr. S. Deva Kumar presented the last semester summative assessment results along with FA, SA, grade distribution, and correlation analysis.
- Courses with higher number of I-grades were highlighted during the analysis (ToC, COA, and PDC).
- Prof. R. B. V. Subramanyam suggested remedial classes for the above courses to reduce the failure percentage. Mr. Bala Prasad Peddigari suggested strengthening practice-based learning and assessment follow-up to improve pass percentage. Dr. B. Venkata Ramana advised closer academic monitoring and timely interventions for courses with higher I-grades. Mr. Sai Kumar Jadam recommended structured improvement actions with measurable targets for continuous improvement.
- The department proposed corrective actions, including changes in teaching methodology and closer monitoring.
- Average and standard deviation were presented for the analysed courses/sections.
- **Decision:** The result analysis was noted and the remedial action plan was recommended for implementation.

Agenda 3: Approval of SWAYAM-NPTEL Courses / Ratification of Previously Approved Courses

- Dr. S. Deva Kumar presented the list of SWAYAM-NPTEL courses proposed for adoption/ratification.
- Prof. R. B. V. Subramanyam recommended inclusion of advanced SWAYAM-NPTEL courses aligned with emerging areas. Mr. Bala Prasad Peddigari suggested SWAYAM-NPTEL courses that strengthen industry-ready skills and employability. Dr. B. Venkata Ramana advised coverage of emerging domains such as Quantum Computing and Generative AI. Mr. Sai Kumar Jadam suggested relevant courses to support quality practices and industry expectations.
- **Decision:** The proposed SWAYAM-NPTEL courses were approved/ratified.
- Appendix 2: SWAYAM-NPTEL Course List.

Agenda 4: Approval of Honour / Minor / Department Elective / Open Elective Courses

- Mr.O. Gandhi presented the proposed list of Honours, Minor, Department Electives, and Open Electives for C24 batch students.
- Prof. R. B. V. Subramanyam suggested focus areas such as Quantum Computing, Quantum AI, and Quantum Communication for electives and honours offerings. Mr. Bala Prasad Peddigari recommended electives that improve industry readiness through project-based and skill-oriented learning. Dr. B. Venkata Ramana advised aligning the new offerings with strong foundations and clear course outcomes. Mr. Sai Kumar Jadam suggested electives that strengthen quality engineering and industry practice orientation.
- It was noted that foundational quantum physics topics are already present, and the new courses will be aligned accordingly.
- Under the Minor stream, it was proposed to include Mobile Automation from the next offering.
- M.Tech. Course Structure (R25–C25): Based on industry stakeholder feedback, the existing streams **Artificial Intelligence and Machine Learning, Data Science, and Cyber Security** are continued, and a new stream titled "**Cloud-based Full Stack Application Development and Deployment**" is introduced with application development–focused department electives to strengthen placement readiness. The updated M.Tech. course structure with the list of department electives is attached in Appendix–5.
- **Decision:** The proposed additions and updates were accepted in principle.
- Appendix 3:R22(C24) course structure and proposed Elective and Honours Course List.
- Appendix 4:R25(C25) M.Tech course structure and proposed Elective List.

Agenda 5: Best Practices in Formative Assessment

- Dr. S. Satish Kumar presented the best practices followed in Pre-T1, T1, T2, T3, and T5. Mr. Bala Prasad Peddigari appreciated the initiatives and suggested continuing structured mentoring and competitive programming activities.
- Members suggested identifying students interested in specific domains and mentoring them through structured activities.
- Monthly coding competitions were recommended using platforms such as LeetCode and CodeChef.
- The department proposed to focus on domain-based learning, including GitHub-based project work and coding platform rankings.
- Student achievement was noted: TCS CodeVita world rank of a student.
- **Decision:** The Board accepted the formative assessment practices and advised implementing them uniformly across all courses, supported by periodic monitoring and review.

Agenda 6: Best Practices in Training and Placement (T&P) Activities

- Ms. G. Navya presented the best practices of T&P activities along with placement analysis and improvement plan. Mr. Bala Prasad Peddigari suggested strengthening industry engagement and improving student profiles through targeted training plans.
- Dr. K. V. Krishna Kishore suggested starting placement-readiness activities from the second year and tracking internships in a structured way to improve placement outcomes.
- **Decision:** The Board noted the practices and suggested continued strengthening of student profile development.

Agenda 7: Stakeholder Feedback Analysis

- Dr. M. Umadevi presented the stakeholder feedback collected from Students, Alumni, Employers, Faculty, Parents, and other stakeholders for the academic year 2024-25 and/or 2025-26. Prof. R. B. V. Subramanyam appreciated the feedback review and suggested using the action points for measurable continuous improvement.
- Feedback related to summative assessment was also discussed.
- **Decision:** The Board endorsed the action points for continuous improvement.

Agenda 8: Guest Lectures by Industry Personnel

- Dr. S. Manikandan discussed the planning and execution of guest lectures by industry experts for core courses and department electives. Mr. Sai Kumar Jadam suggested inviting more industry experts aligned with current practice and quality expectations.
- **Decision:** The Board encouraged more industry interaction and approved the proposed plan.

Agenda 9: Workshops and Conferences Organized

- Dr. S. Deva Kumar discussed the workshops, seminars, FDPs, and conferences organized/planned by the department. Dr. B. Venkata Ramana appreciated the plans and suggested focused thematic events linked to emerging areas and student profile improvement.
- Dr. K.V. Krishna Kishore encouraged organizing school-level thematic events aligned with emerging areas and recommended involving students in publication and certification targets.
- The Board suggested that activities should support student profile improvement through certifications, online courses, and guidance for higher education.
- **Decision:** The Board appreciated the efforts and recommended focused thematic events.

Agenda 10: Any Other Matter with the Permission of the Chair

- Other academic initiatives related to curriculum enrichment, certifications, and student career development were discussed.
- Dr. K.V. Krishna Kishore emphasized strengthening documentation of academic initiatives and encouraged inter-department collaboration within SOC&I to maximize impact.
- Decision: Suggestions were noted for implementation.

Conclusion

The Chairperson thanked all members for their valuable inputs. The meeting concluded with a commitment towards continuous academic improvement.

At the end G. Navya proposed the vote of thanks and thanked all members.

Member Secretary

Chairperson

Appendix 1

Assessment Pattern

R22 (C22 & C24) Assessment pattern

Targets	R-22 Current Module 1 &2	R-22 Revised Module 1	R-22 Revised Module 2	Pattern	Blooms Taxonomy
Pre Target-1	10 Marks	6 Marks (mid of 3rd Week)	6 Marks (mid of 3rd Week)	2Q×5M = 10 Marks (Scaled to 6)	1 & 2
Target-1	20 Marks → 10+10 =10M (5th Week)	8 Marks → 4+4 =14M (5th Week)	8 Marks → 4+4 =14M (5th Week)	2Q×10M=20 (Scaled to 8)	2,3 & 4
Target-2	10 Marks (2 Reviews)	3 Marks (T2)	3 Marks (T2)	5 (Scaled to 3)	3,4 & 5
Target-3	10 Marks (End 7th Week)	3 Marks (IEEE/APA, 1 Review)	3 Marks (Voice In-built, 1 Review)	5 (Scaled to 3)	3,4 & 5
Target-4	10 Marks (End 8th Week)	20 Marks (End 8th Week)	20 Marks (End 8th Week)	3Q×5=15 & 10Q×½=5	3,4 & 5
Target-5	20 Marks	20 Marks	20 Marks	20 Marks	3,4 & 5
Total	120(60+60) Marks	60 Marks	60 Marks		

Appendix 2
List of NPTEL Courses

Course ID	Course Name	SME Name	Institute	Co-Ordinating Institute	Duration
noc26-cs02	Mathematical Foundations of Machine Learning	Prof. Prathosh A P	IISc Bangalore	IISc Bangalore	12 Weeks
noc26-cs03	Foundation for Virtual and Augmented Reality Systems	Prof. Samit Bhattacharya	IIT Guwahati	IIT Guwahati	
noc26-cs04	Neural Networks for Computer Vision and Natural Language Processing	Prof. Arijit Sur	IIT Guwahati	IIT Guwahati	
noc26-cs05	Bayesian Data Analysis for the Behavioral Sciences	Prof. Himanshu Yadav	IIT Kanpur	IIT Kanpur	
noc26-cs08	Algorithmic Graph Theory and Data Structures	Prof. Sourav Mukhopadhyay	IIT Kharagpur	IIT Kharagpur	
noc26-cs13	Introduction to Information Retrieval	Prof. Dwaipayan Roy	IISER Kolkata	IIT Madras	
noc26-cs17	Secure Computation: Part I	Prof. Ashish Choudhury	IISc Bangalore	IISc Bangalore	
noc26-cs18	Foundations of Cryptography	Prof. Ashish Choudhury	IISc Bangalore	IISc Bangalore	
noc26-cs19	Algorithms in Computational Biology and Sequence Analysis	Prof. Chirag Jain	IISc Bangalore	IISc Bangalore	
noc26-cs21	Games and Information	Prof. Ankur A. Kulkarni	IIT Bombay	IIT Bombay	
noc26-cs23	Advanced Computer Architecture	Prof. Smruti R. Sarangi	IIT Delhi	IIT Delhi	
noc26-cs25	Parallel Computer Architecture	Prof. Hemangee K. Kapoor	IIT Guwahati	IIT Guwahati	
noc26-cs27	Basics of Computational Complexity	Prof. Nitin Saxena	IIT Kanpur	IIT Kanpur	
noc26-cs31	Circuit Complexity Theory	Prof. Raghunath Tewari	IIT Kanpur	IIT Kanpur	

List of NPTEL Courses

Course ID	Course Name	SME Name	Institute	Co-Ordinating Institute	Duration
noc26-ee07	Memory Device Technology for AI/ML Computing	Prof. Shubhadeep Bhattacharjee	IIT Hyderabad	IIT Madras	12 Weeks
noc26-cs37	Introduction to Internet of Things	Prof. Sudip Misra	IIT Kharagpur	IIT Kharagpur	
noc26-cs38	Introduction to Industry 4.0 and Industrial IoT	Prof. Sudip Misra	IIT Kharagpur	IIT Kharagpur	
noc26-cs41	Foundations of Cyber Physical Systems	Prof. Soumyajit Dey	IIT Kharagpur	IIT Kharagpur	
noc26-cs43	GPU Architectures and Programming	Prof. Soumyajit Dey	IIT Kharagpur	IIT Kharagpur	
noc26-ee09	FPGA Based Signal Processing Systems	Prof. P. Sumathi	IIT Roorkee	IIT Roorkee	
noc26-cs46	Object Oriented System Development using UML, Java and Patterns	Prof. Rajib Mall	IIT Kharagpur	IIT Kharagpur	
noc26-cs48	Selected Topics in Algorithms	Prof. Palash Dey	IIT Kharagpur	IIT Kharagpur	
noc26-cs49	Switching Circuits and Logic Design	Prof. Indranil Sengupta	IIT Kharagpur	IIT Kharagpur	
noc26-cs50	VLSI Physical Design	Prof. Indranil Sengupta	IIT Kharagpur	IIT Kharagpur	
noc26-cs52	Programming in Modern C++	Prof. Partha Pratim Das	IIT Kharagpur	IIT Kharagpur	
noc26-mg05	International Human Resource Management	Prof. Mrinalini Pandey	IIT-ISM Dhanbad	IIT Kharagpur	
noc26-cs54	Embedded Systems Design	Prof. Anupam Basu	IIT Kharagpur	IIT Kharagpur	
noc26-mg03	Metrics and Analytics of Marketing	Prof. Kuldeep Baishya	IIT Guwahati	IIT Guwahati	

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List of NPTEL Courses

Course ID	Course Name	SME Name	Institute	Co-Ordinating Institute	Duration
noc26-cs07	Exploratory Data Analysis for Data Science with R Software (English)	Prof. Shalabh	IIT Kanpur	IIT Kanpur	12 Weeks
noc26-ag01	Crop Modeling and Simulation for Agricultural Production Management (CMSAM)	Prof. Dillip Kumar Swain	IIT Kharagpur	IIT Kharagpur	
noc26-cs63	Artificial Intelligence: Knowledge Representation and Reasoning	Prof. Deepak Khemani	IIT Madras	IIT Madras	
noc26-cs64	Business Intelligence & Analytics	Prof. Saji K Mathew	IIT Madras	IIT Madras	
noc26-bt01	Healthcare Entrepreneurship	Prof. Arnab Chanda	IIT Delhi	IIT Delhi	
noc26-ee04	Basic Overview of Semiconductor Device Processing and IC Fabrication	Prof. S. Sundar Kumar Iyer	IIT Kanpur	IIT Kanpur	
noc26-cs69	Getting Started with Competitive Programming	Prof. Neeldhara Misra	IIT Gandhinagar	IIT Madras	
noc26-cs70	Human Computer Interaction (English)	Prof. Rajiv Ratn Shah	IIIT Delhi	IIT Madras	
noc26-me98	Computer Integrated Manufacturing: From Concept to Implementation	Prof. Sankha Deb	IIT Kharagpur	IIT Kharagpur	
noc26-me101	Autotronics	Prof. Palani Iyamperumal Anand	IIT Indore	IIT Madras	
noc26-cs81	Reinforcement Learning	Prof. Balaraman Ravindran	IIT Madras	IIT Madras	
noc26-cs82	Social Networks	Prof. Sudarshan Iyengar	IIT Ropar	IIT Madras	

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Appendix 3

R22(C24) course structure and proposed Elective and Honours Course List.

R22(C24) course structure

Induction Programme

Course Code	Course Title	L	T	P	C	Course category
	Orientation Session	0	2	0	1	Binary graded

I Year I Semester

Course Code	Course Title	L	T	P	C	Course category
24MT101	Linear Algebra and Ordinary Differential Equations	3	2	0	4	Basic Sciences
24CT101	Engineering Chemistry	3	0	2	4	Basic Sciences
24CS101	Programming in C	2	0	4	4	Basic Engineering
24EE101	Basics of Electrical and Electronics Engineering	2	0	2	3	Basic Engineering
24MS101	Management Science	2	2	0	3	Basic Sciences
24CY101	IT Tools and Cyber Security	0	2	2	2	Basic Engineering
24EN101	English Proficiency and Communication Skills	0	0	2	1	Humanities
Sub-Total		**12**	**6**	**12**	**21**	
24SS101	Constitution of India	0	2	0	1	Binary graded
24SA103	Physical Fitness, Sports & Games	0	0	2	1	Binary graded
Sub-Total		**12**	**8**	**14**	**23**	
Total			**34**		**23**	

I Year II Semester

Course Code	Course Title	L	T	P	C	Course category
22MT102	Calculus	3	2	0	4	Basic Sciences
22PY102	Engineering Physics	3	0	2	4	Basic Sciences
22ME101	Engineering Graphics	2	0	2	3	Basic Engineering
24CS102	Problem Solving through Python	2	0	2	3	Basic Engineering
24EN102	Technical English Communication	2	0	2	3	Humanities
22CT103	Environmental Studies	2	2	0	3	Humanities
Sub-Total		**14**	**4**	**8**	**20**	
24SS102	Indian Knowledge Systems	0	2	0	1	Binary graded
24SA102	Self - Empowerment and Gender Sensitization	0	0	2	1	Binary graded
Sub-Total		**14**	**6**	**10**	**22**	
Total			**30**		**22**	

II Year I Semester

Course Code	Course Title	L	T	P	C	Course category
24MT203	Discrete Mathematical Structures	3	2	0	4	Basic Sciences
22TP201	Data Structures	2	2	2	4	Basic Engineering
22CS201	Database Management Systems	2	2	2	4	Professional Core
24CS204	Object-Oriented Programming through JAVA	3	0	2	4	Professional Core
24CS205	Front end application Development	0	2	2	2	Professional Core
24CS208	Digital Logic Design	3	0	2	4	Professional Core
22CS305	Industry Interface Course	0	0	2	1	Department Elective
24CS299	Design Thinking and Engineering Orientation	0	0	2	1	Basic Engineering
	Sub-Total	**13**	**8**	**12**	**24**	
22SA201	Life Skills-I	0	0	2	1	Binary graded
	Sub-Total	13	8	14	25	
	Total		**35**		**25**	

II Year II Semester

Course Code	Course Title	L	T	P	C	Course category
22ST202	Probability and Statistics	3	2	0	4	Basic Sciences
24CS209	Design and Analysis of Algorithms	3	0	2	4	Professional Core
22CS207	Operating Systems	2	0	2	3	Professional Core
24CS210	Computer Organization	2	2	0	3	Professional Core
24CS207	Full Stack Development	0	2	2	2	Professional Core
	Universal Human Values	0	0	2	1	Binary graded
24CS201	Field Project	0	0	2	1	Project
	OE - 1 (NPTEL)	2	2	0	3	Open Elective
	Sub-Total	**12**	**8**	**10**	**21**	
	Minors/Honours - 1	**3**	**0**	**2**	**4**	Minors/Honours
	Sub-Total	**15**	**8**	**12**	**25**	
	Total		**35**		**25**	

III Year I Semester

Course Code	Course Title	L	T	P	C	Course category
22TP301	Soft Skills Laboratory	0	0	2	1	Humanities
24CS301	Optimization Techniques	2	2	0	3	Basic Sciences
24CS302	Artificial Intelligence	2	0	2	3	Professional Core
24CS303	Computer Networks	3	0	2	4	Professional Core
24CS305	Computing Ethics	1	2	0	2	Humanities
	DE - 2	3	0	2	4	Department Elective
	OE - 2	2	2	0	3	Open Elective
24EN301	Professional Communication Skills	0	0	2	1	Humanities

	Sub-Total	**13**	**6**	**10**	**21**	
	Minors/Honours - 2	2	2	2	**4**	Minors/Honours
	Sub-Total	**15**	**8**	**12**	**25**	
	Total		**35**		**25**	

III Year II Semester

Course Code	Course Title	L	T	P	C	Course category
24TP301	Quantitative Aptitude & Logical Reasoning	1	2	0	2	Humanities
24CS306	Machine Learning	2	2	2	4	Professional Core
New Code	Cryptography and Network Security	3	0	2	4	Professional Core
	DE-3	2	0	2	3	Department Elective
	DE-4	3	0	2	4	Department Elective
	OE-3	2	0	2	3	Open Elective
24CS307	Inter Department Project	0	0	2	1	Project
	Sub-Total	**13**	**4**	**12**	**21**	
	Honours/Minors (Add-on)	2	2	2	**4**	Minors/Honours
	Sub-Total	**15**	**6**	**14**	**25**	
	Total		**35**		**25**	

IV Year I Semester

Course Code	Course Title	L	T	P	C	Course category
24CS401	Software Project Management	2	2	0	3	Professional Core
24CS402	Parallel & Distributed Computing	2	2	0	3	Professional Core
24CS403	Privacy Preserving and Intrusion Detection	2	2	0	3	Professional Core
	DE-5	3	0	2	4	Department Elective
	DE-6	2	2	2	4	Department Elective
	DE-7	2	2	2	4	Department Elective
	Sub-Total	**13**	**10**	**6**	**21**	
	Honours/Minors (Add-on)	2	2	2	4	Honours/Minors
	Sub-Total	**15**	**12**	**8**	**25**	
	Total		**35**		**25**	

IV Year II Semester

Course Code	Course Title	L	T	P	C	Course category
22CS404/ 22CS405	Project/Internship	0	2	22	12	Project/Internship
	Sub-Total	**0**	**2**	**22**	**12**	
	Honours/Minors (Add-on)	2	2	2	**4**	Honours/Minors
	Sub-Total	**2**	**4**	**24**	**16**	
	Total		**30**		**16**	

List of Department Electives:

Existing department Electives		
Course Code	**Course Name**	**L-T-P-C**
22CS801	Advanced Data Structures	2-2-2-4
22CS802	Advanced JAVA Programming	2-2-2-4
22CS803	Computer Graphics	2-2-2-4
22CS804	Deep Learning	3-0-2-4
22CS805	Digital Image Processing	2-2-2-4
22CS807	Mobile Ad-hoc Networks	3-0-2-4
22CS809	Text Mining	3-0-2-4
22CS810	Numerical Algorithms	3-0-2-4
22CS811	Operating System Design	3-0-2-4
22CS813	Simulation and Modelling	3-2-0-4

Proposed department Electives (2-2-2-4)				
Year/Sem	**Artificial Intelligence and Data Science (AIDS)**	**L-T-P-C**	**Full Stack Development (FSD)**	**L-T-P-C**
III-1	Computer Vision	3-0-2-4	Advanced Front-End Framework	3-0-2-4
III-2	Deep Learning	3-0-2-4	No SQL	2-0-2-3
III-2	Cloud Computing	2-0-2-3	Software Testing and Quality Assurance	2-0-2-3
IV-1	Ethics&Resposnsible AI	3-2-0-4	Agile Development	3-0-2-4
IV-1	Big Data Analysis	2-2-2-4	MERN Stack Development	2-2-2-4
IV-1	Large Language Models and Text Mining	2-2-2-4	Server-side Programming	2-2-2-4

List of Honors

List of Courses offered under B.Tech. CSE Honours (Stream-wise)				
Year/Sem	**Artificial Intelligence and Data Science (AIDS)**	**L-T-P-C**	**Full Stack Development (FSD)**	**L-T-P-C**
II-II	Data Wrangling	3-0-2-4	UI/UX Design	3-0-2-4
III-I	Data Analytics and Visualization	2-2-2-4	API Security and Authentication	2-2-2-4
III-II	Agentic AI	2-2-2-4	Mobile Application Development	2-2-2-4
IV-II	Edge AI and IoT Analytics	2-2-2-4	DevOps	2-2-2-4

Appendix 4

R25(C25) M. Tech course structure and proposed Elective List

M. Tech course structure

Pre – Semester

Course Code	Title of the course	L	T	P	C	Course type
25SAB101	Orientation Session	0	2	0	1	Binary graded
25AMB101	IT workshop and cybersecurity	0	0	2	1	Binary graded
	Total		**4**		**2**	

I Year I Semester

Course Code	Title of the course	L	T	P	C	Course type
25CSB101	Data Structures and Algorithms	2	2	2	4	Professional Core
25CSB102	Machine Learning	2	2	2	4	Professional Core
25CSB103	Internet of Things	2	2	2	4	Professional Core
	Department Elective	3	2	0	4	Elective
25CSB104	**Teaching Assistantship**	0	0	2	1	Binary graded
25ENB101	**Indian Knowledge System**	0	2	0	1	Binary graded
	Work-in-lieu of a course*				2	Elective & Floating Credit
	Sub Total				**20**	
	Add on course -1				3	
	Total				**23**	

I Year II Semester

Course Code	Title of the course	L	T	P	C	Course type
25CSB105	Cloud Computing	2	2	2	4	Professional Core
25CSB106	Big Data and Analytics	2	2	2	4	Professional Core
	Department Elective	3	0	2	4	Elective
	Department Elective	3	0	2	4	Elective

25MSB101	Research Methodology & IPR	1	2	0	2	Interdisciplinary
25CSB107	Interdepartmental Project	0	0	2	1	Project
25CSB108	Teaching Assistantship	0	0	2	1	Binary graded
	Sub Total	**11**	**06**	**12**	**20**	
	Add on course -2				3	
	Total				**23**	

II Year I Semester

Course Code	Title of the course	L	T	P	C	Course type
25CSB201 / 25CSB202	Internship / Project	0	2	24	13	Project
	Sub Total	**0**	**2**	**24**	**13**	
	Add on course -3 (MOOCs Course)				3	
	Total				**16**	

II Year II Semester

Course Code	Title of the course	L	T	P	C	Course type
25CSB203 / 25CSB204	Internship / Project	0	2	24	13	Project
	Sub Total	**0**	**2**	**24**	**13**	
	Add on course -4 (MOOCs Course)				3	
	Total				**16**	

DEPARTMENT ELECTIVES–STREAM-WISE

Artificial Intelligence and Machine Learning

Course Code	Course Title	L	T	P	C
25CSB801	Artificial Intelligence	3	0	2	4
25CSB802	Artificial Neural Networks	3	2	0	4
25CSB803	Deep Learning	3	0	2	4
25CSB804	Computer Vision	3	0	2	4
25CSB805	Pattern Recognition	3	2	0	4
25CSB806	Digital Image Processing	3	0	2	4

Data Science

Course Code	Course Title	L	T	P	C
25CSB807	Data Handling and Visualization	3	0	2	4
25CSB808	Statistical Foundations of Data Science	3	0	2	4
25CSB809	NATURAL LANGUAGE PROCESSING	3	2	0	4
25CSB803	Deep Learning	3	0	2	4
25CSB810	Time Series Analysis and Forecasting	3	0	2	4
25CSB811	Kernel Methods for Pattern Analysis	3	0	2	4

Cyber Security

Course Code	Course Title	L	T	P	C
25CSB812	Wireless Sensor Networks	3	0	2	4
25CSB813	Mobile Ad-hoc Networks	3	0	2	4
25CSB814	Block chain Technologies	3	0	2	4
25CSB815	Mobile and Wireless Security	3	0	2	4
25CSB816	Advanced Cryptography	3	0	2	4
25CSB817	Digital Forensics	3	0	2	4

Proposed Department Electives

Cloud-based Full Stack Application Development and Deployment				
Course Title	**L**	**T**	**P**	**C**
Full Stack Development	2	2	2	4
Agile Development	3	0	2	4
DevOps	3	0	2	4
Agentic AI	3	0	2	4
Edge AI and IoT Analytics	3	0	2	4